

Claims:

- InsB2
- 5 1. An ink-jet printing sheet which comprises a support and at least one ink-receptive layer provided on the support, wherein at least one of the ink-receptive layer contains silica fine particles having an average primary particle diameter of 20 nm or less and at least one water-soluble polyvalent metal compound.
- 10 2. The ink-jet printing sheet according to Claim 1, wherein the water-soluble polyvalent metal compound is selected from the group consisting of a water-soluble aluminum compound and a water-soluble compound containing an element of Group 4 of the Periodic Table.
- 15 3. The ink-jet printing sheet according to Claim 1, wherein the silica fine particles are synthetic silica prepared by a gas phase process.
- InsB3
- 20 4. The ink-jet printing sheet according to Claim 1, wherein the water-soluble aluminum compound is polyaluminum hydroxychloride.
- 25 5. The ink-jet printing sheet according to Claim 1, wherein the element of Group 4 of the Periodic Table is titanium or zirconium.
- 30 6. The ink-jet printing sheet according to Claim 1, wherein the ink-receptive layer contains 8 g/m<sup>2</sup> or more of the silica fine particles.
- SubB4
- 35 7. The ink-jet printing sheet according to Claim 3, wherein the average primary particle diameter of the synthetic silica by the gas phase process is 20 nm or less and a specific surface area measured by the BET method is 200 m<sup>2</sup>/g or more.

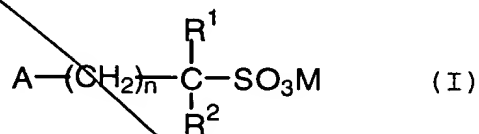
8. The ink-jet printing sheet according to Claim 7, wherein the ink-receptive layer contains the synthetic silica in an amount of 10 g/m<sup>2</sup> or more and a hydrophilic binder in an amount of 10 to 30 % by weight based on the amount of the synthetic silica.

9. The ink-jet printing sheet according to Claim 1, wherein a pH of a surface of the ink-receptive layer is 3 to 5.

10. The ink-jet printing sheet according to Claim 1, wherein the ink-receptive layer contains polyvinyl alcohol as a hydrophilic binder and further contains a water-soluble plasticizer of the polyvinyl alcohol.

11. The ink-jet printing sheet according to Claim 10, wherein the water-soluble plasticizer is urea or glycerin.

12. The ink-jet printing sheet according to Claim 1, wherein the ink-receptive layer contains at least one selected from the group consisting of a nitrite, a sulfite, a <sup>bisulfite</sup> ~~metasulfite~~, a phosphite, a thiosulfate and a compound represented by the following formula (I):

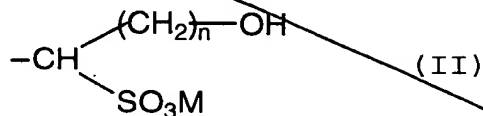


wherein A represents a hydroxyl group or an amino group which may be substituted by an unsubstituted or substituted alkyl group having 1 to 4 carbon atoms, or an unsubstituted or substituted aryl group; R<sup>1</sup> and R<sup>2</sup> are combined to form a 5- or 6-membered ring with the carbon atom to which they are bonded, or one of which represents a hydrogen atom and the other represents a hydrogen atom, an alkyl group having 1 to 17 carbon atoms, an aryl group which may be substituted by at least one of a hydroxyl group or -SO<sub>3</sub>M, or a group represented by

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the following formula (II); n represents 0 or an integer of 1 to 8; and M represents a cation,



where n and M have the same meaning as defined above.

- 5 ~~13. The ink-jet printing sheet according to Claim 1, wherein the support is a water resistant support.~~

- ~~14. The ink-jet printing sheet according to Claim 13, wherein the water resistant support is a polyolefin resin-coated paper.~~